**Year 10 Physics: Light Revision**

1. Light is essentially ‘white’ – what are the colours that make up white light?
2. What is the name of the behaviour of light that makes objects in water appear where they are not when we view them from air?
3. When light travels from its source it travels along a straight line path. As it travels from a less to more dense medium its path changes. Describe this change using the following words: less/more, optically dense, boundary, normal, angle.
4. When light travels from a more dense to less dense medium it may be totally internally reflected. Describe this behaviour of light using the following words: more/less optically dense medium, transmitted, boundary, angle, critical.
5. Choose the correct alternative for lenses:

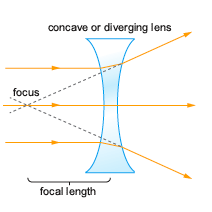
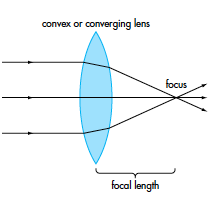
A concave lens converges/diverges light.

A convex lens converges/diverges light.

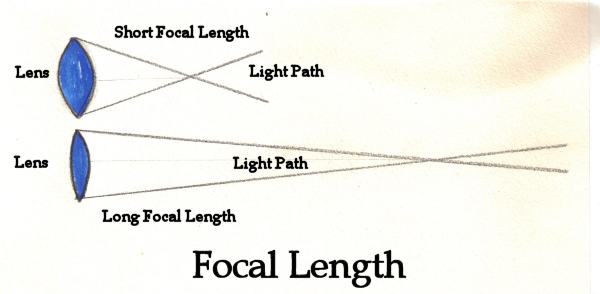
1. Draw each type of lens and show how light refracts as it enters and leaves the lens.
2. Draw a picture to show how the thickness of a convex lens can affect focal length.
3. Describe the difference between a real and virtual image.
4. Apart from the visible colours of light, what makes up the electromagnetic spectrum?
5. Draw a light wave and label it to show a wavelength.
6. With respect to light, what does frequency refer to?
7. Describe the difference between transmission and absorption of light.
8. Define the following terms: opaque, translucent, transparent.

**Answers**

1. Red, Orange, Yellow, Green, Blue, Indigo, Violet
2. Refraction
3. Varied answers
4. Varied answers
5. Concave **diverges** light & convex **converges** light
6. See pictures:



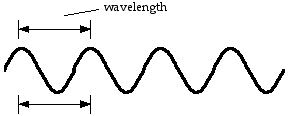
1. Thicker lens has a shorter focal length



1. Real image – can be projected on to a screen

Virtual image – can be seen in a mirror

1. Infrared rays, ultraviolet rays, gamma rays, magnetic field



1. The number of waves that pass a specific point in one second.
2. If an object transmits light, light passes through it. If an object absorbs light, light can’t pass through it.
3. Opaque – a material is opaque if it only absorbs light. No light passes through it so we cannot see through it.

Translucent – allows some light to pass through but scatters it so objects are unclear.

Transparent – transmit light, meaning we can see through them.